

1           1.    A method comprising:  
2                   forming a non-switching ovonic material; and  
3                   forming a phase change material that changes  
4 between more conductive and less conductive states coupled  
5 to said non-switching ovonic material.

1           2.    The method of claim 1 including forming said non-  
2 switching ovonic material over said phase change material  
3 and forming a second ovonic material under said phase  
4 change material.

1           3.    The method of claim 1 including contacting said  
2 non-switching ovonic material with an electrode.

1           4.    The method of claim 3 including forming a second  
2 ovonic material over said phase change material, forming  
3 said non-switching ovonic material under said phase change  
4 material, and contacting said non-switching and second  
5 ovonic materials with electrodes.

1           5.    The method of claim 1 including forming said  
2 phase change material and said non-switching ovonic  
3 material in a pore formed in an insulator.

1           6.    The method of claim 1 including forming a second  
2   ovonic material in a cup-shape over said phase change  
3   material.

1           7.    The method of claim 6 including filling said cup-  
2   shaped ovonic material with an insulator.

1           8.    The method of claim 7 including covering said  
2   phase change material with an insulating material.

1           9.    The method of claim 8 including positioning said  
2   second ovonic material on a portion of said phase change  
3   material and covering the rest of said phase change  
4   material with nitride.

1           10.   The method of claim 1 including forming a cup-  
2   shaped first ovonic material and forming said phase change  
3   material within said cup-shaped first ovonic material.

1           11.   The method of claim 10 including providing a  
2   second ovonic material that contacts the upper side of said  
3   phase change material.

1           12.   The method of claim 12 including covering a  
2   portion of said phase change material with an insulator and

3 causing said second ovonic material to contact only a  
4 portion of said first phase change material.

1 13. The method of claim 10 wherein said non-switching  
2 ovonic material is a stable structural phase.

1 14. A memory comprising:  
2 a non-switching ovonic material; and  
3 a phase change material that changes between more  
4 conductive and less conductive states coupled to said non-  
5 switching ovonic material.

1 15. The memory of claim 14 including a second ovonic  
2 material over said phase change material.

1 16. The memory of claim 14 including an electrode  
2 contacting said non-switching ovonic material.

1 17. The memory of claim 15 including a first  
2 electrode contacting said non-switching ovonic material and  
3 a second electrode contacting said second ovonic material,  
4 said phase change material sandwiched between said non-  
5 switching ovonic material, said second ovonic material, and  
6 said first and second electrodes, and said phase change  
7 material being sandwiched by said first and second  
8 electrodes.

- 1           18. The memory of claim 14 including a substrate  
2 under said first ovonic material.
- 1           19. The memory of claim 14 wherein said non-switching  
2 ovonic material is cup-shaped.
- 1           20. The memory of claim 19 wherein said phase change  
2 material is in said cup-shaped non-switching ovonic  
3 material.
- 1           21. The memory of claim 14 including a second ovonic  
2 material over said phase change material, said second  
3 ovonic material being cup-shaped.
- 1           22. The memory of claim 21 including an insulator in  
2 said cup-shaped second ovonic material.
- 1           23. The memory of claim 21 wherein said second ovonic  
2 material is in contact with said phase change material  
3 along a portion of the phase change material and the  
4 remaining portion of said phase change material is covered  
5 by an insulator.
- 1           24. The memory of claim 14 wherein said non-switching  
2 ovonic material is a chalcogenide.

1           25. The memory of claim 25 wherein said phase change  
2 material is a chalcogenide.

1           26. The memory of claim 14 wherein said non-switching  
2 ovonic material and said phase change material are formed  
3 of a chalcogenide.

1           27. A system comprising:  
2               a processor-based device;  
3               a wireless interface coupled to said processor-  
4 based device; and  
5               a semiconductor memory coupled to said device,  
6 said memory including a non-switching ovonic material and a  
7 phase change material that changes between more conductive  
8 and less conductive states over said non-switching ovonic  
9 material.

1           28. The system of claim 27 wherein said wireless  
2 interface includes a dipole antenna.

1           29. The system of claim 27 wherein said non-switching  
2 ovonic material and said phase change material are both  
3 formed of a chalcogenide.

1           30. The system of claim 27 including a second ovonic  
2 material over said phase change material.